

Remarks/Arguments

Applicants wish to thank the Examiner for the careful review of the claims, specification, and drawings.

Specification

In the specification, the paragraphs [0016], [0037], and [0042] have been amended to correct editorial problems.

In response to the objections to the specification pertaining to claims 22-25 and 29, claims 22-25 and 29 have been amended to correct editorial problems.

No new subject matter has been added.

Claims

Claims 34-37 and 55-58 have been withdrawn.

Independent claim 1 has been amended to correct the editorial problem of "ketone" and to include the limitation of the previously presented claim 3.

Claims 3 and 45 have been canceled.

Claims 12, 15, 18, 22-25, 27, 29, 39, and 50 have been amended to correct editorial problems.

After entry of this amendment, claims 1-2, 4-33, 38-44, and 46-54 are pending.

It is respectfully submitted that each and every feature recited in the amended specification and claims are fully supported in the specification as filed. No new subject matter has been added.

Claim Objections

The Office Action argues that claims 1 and 27 are objected to because of the following informalities: claims 1 and 27 recite "keytone" where, apparently, "ketone" is indicated.

Applicants hereby amend claims 1 and 27 to correct editorial problems such that "ketone" is recited.

Rejections under 35 USC § 112

Claims 40-44

The Office Action argues that claims 40-44 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for acetic acid as a component of the acidic solution, does not reasonably provide enablement for a set of acids comprising acetic acid.

Applicants have amended paragraph [0042] to correct editorial problems. The amended paragraph [0042] reasonably provides enablement for a set of acids comprising acetic acid. Accordingly, it is respectfully submitted that the rejections under 35 U.S.C. 112 to claims 40-44 are overcome.

Claims 12, 15, and 18

The Office Action argues that claims 12, 15, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, The Office Action argues that there is insufficient antecedent basis in each of claims 12, 15, and 18.

Applicants hereby amend claims 12, 15, and 18 to correct editorial problems by replacing "said" with "a". It is respectfully submitted that the rejections under 35 U.S.C. 112 to claims 12, 15, and 18 are overcome.

Rejections under 35 USC § 103

The Office Action argues that claims 1-21, 26-33, 38, 39, 44, and 46-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shih et al. (U.S. 20030190870), hereinafter "Shih", in view of Han et al. (U.S. 6,942,929), hereinafter "Han", and in further view of Collins et al. (U.S. 6,814,814), hereinafter "Collins". In particular, the Office Action argues that Collins teaches that "residues are periodically cleaned off the chamber surfaces to reduce or prevent contamination of the substrate. The chamber may be cleaned by a wet-cleaning process in which the chamber is shut down and an operator scrubs or wipes the chamber walls with an acid or solvent" (col. 1, lines 27-35). Accordingly, the Office Action argues that one skilled in the art motivated by the general teaching of Collins would have found obvious to utilize

mechanical scrubbing in order to efficiently clean ceramic parts with oxidizing or acidic processing solutions in the teaching of Shih.

It is respectfully submit that Shih specifically teaches dipping a part in a solution including H_2O_2 (an oxidizer) to be a chemical process, in contrast with mechanical processes ([0032]-[0033]). Accordingly, Shih teaches away from performing mechanical rubbing when dipping the part in the solution including H_2O_2 (an oxidizer).

Collins teaches that an operator scrubs or wipes the chamber walls with an acid or solvent, but not a solution including an oxidizer.

For the above reasons and others, it is respectfully submitted that the limitation of "exposing a set of structures to a first solution (including an oxidizer) for a first period includes mechanically rubbing the set of structures with an abrasive pad" in the previously presented claim 3 is novel, nonobvious, and patentable over the cited art, alone or in combination. Applicants hereby amend independent claim 1 to include the limitation of the previously presented claim 3 and cancel the previously presented claim 3. The amended claim 1 is as follows:

1. (Currently amended) In a plasma processing system, a method of removing a set of particles from a set of structures including yttrium oxide, comprising:

exposing said set of structures to a first solution including an oxidizer for a first period, wherein said step of exposing said set of structures to said first solution including an oxidizer for a first period includes mechanically rubbing said set of structures with an abrasive pad;

removing said set of structures from said first solution;

exposing said set of structures to a second solution including a ~~keytone~~ ketone reagent for a second period;

removing said set of structures from said second solution; and

mechanically rubbing a surface of said set of structures with a third solution including a first set of acids for a third period.

As discussed above, Shih specifically teaches away from performing mechanical rubbing when exposing a structure to a solution including an oxidizer.

Han and Collins do not teach performing mechanical rubbing when exposing a structure to a solution including an oxidizer.

For the above reasons and others, it is respectfully submitted that the amended claim 1, which recites the limitation of the previously presented claim 3, is novel, nonobvious, and patentable over the cited art, alone or in combination.

Further, it is respectfully submitted that the remaining claims 2, 4-33, 38-44, and 46-54 that depend from the amended claims 1 also are novel, nonobvious, and patentable not only due to their recitations of independently patentable features but also due to their dependence from the patentable parent claim 1.

No new subject matter has been added. No search for new references is necessitated.

CONCLUSION

In view of the discussion herein, Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application the undersigned can be reached at the telephone number set out below.

If any petition is required to facilitate the entry of the present amendment, please consider this communication a petition therefore as well. The Commissioner is authorized to charge any fees beyond the amount enclosed which may be required, or to credit any overpayment, to Deposit Account No. 50-2284 (Order No. LMRX-P023/P1130).

Respectfully submitted,

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